In the Specification:

Please amend and substitute the following paragraph for the paragraph beginning on page 4, line 4, as follows:

In the designs provided herein, the magnet component includes a pair of spaced apart magnet arrays and the motor drive conductor ~~component~~ array is positioned between the magnet arrays. Further, the auxiliary conductor ~~component~~ array is positioned between the magnet arrays.

Please amend and substitute the following paragraph for the paragraph beginning on page 6, line 16, as follows:

Because of the conductor component 14 provided herein, the motor 10 is particularly useful in manufacturing, measurement and/or inspection processes that are sensitive to and/or influenced by stray AC magnetic fields. As illustrated in Figure 17, a typical ~~charge~~ charged particle exposure apparatus 18 includes an illumination system 24, a reticle stage assembly 26, an optical assembly 28 and a wafer stage assembly 30. The illumination system 24 includes an illumination source 32 (illustrated in Figure 17) that generates a beam of charged particles (not shown). One type of illumination source 32 is an electron beam generator that generates an electron beam. An electron beam can be influenced by AC magnetic fields of sufficient magnitude. Thus, minimizing the ~~AC~~ stray AC magnetic fields is an important consideration in an electron beam lithography, inspection, or metrology system.

Please amend and substitute the following paragraph for the paragraph beginning on page 10, line 27, as follows:

The number of motor drive coils 64 in each set 65A, 65B, 65C can be varied. In the embodiment illustrated in Figures 3A and 3B, each phase includes a plurality of electrical wires that are wrapped into an assembly of nine motor drive coils 64. These motor drive

coils 64 are periodic with a periodicity equal to the magnet pitch. They are wired in series. They are also referred to a as electric poles, or poles. Alternately, in the embodiment illustrated in Figures 3C, 4A, 4B, 5A and 5B, each phase includes a plurality of electrical wires that are wrapped into eight motor drive coils 64. It should be noted that the motor drive coils 64 are illustrated in the Figures as being offset vertically for clarity. In use, the motor drive coils 64 are preferably not vertically offset.

Please amend and substitute the following paragraph for the paragraph beginning on page 13, line 1, as follows:

In the embodiment illustrated in Figures 3A and 3B, each phase of the motor drive conductor array 40 includes nine motor drive coils 64, an odd number of electric poles. The magnetic field from a pole of each motor drive coil 64 is believed to approximate that from a magnetic dipole at significantly large distances from the conductor component 14. Therefore, it is expected that the intensity of the magnetic field will be proportional to the magnetic dipole moment m_p:

m_p = pole loop area x NI (Equation 1)

where NI is the number of current turns in the motor drive coil 64. N is the number of turns of wire in the motor drive coil 64. ~~N_c is the number of turns of wire in the auxiliary coil 66.~~

Please amend and substitute the following paragraph for the paragraph beginning on page 13, line 28, as follows:

In this formula, n is an integer, p is the magnet pitch, L_c is the width if the auxiliary coil transverse to the direction of motion, ~~and~~ N_cI_c is the number of current turns in the auxiliary coil, and N_c is the number of turns of wire in the auxiliary coil 66. The following formula applies when the stray magnetic field from the electrically excited motor drive coils 64 is approximately nullified by the auxiliary magnetic field from the electrically excited auxiliary conductor array 42:

$$m_{\text{auxiliary conductor array}} \approx m_{\text{motor drive conductor array}} \approx m_p, \quad \text{(Equation 4)}$$

~~Or~~ or

$2npL_cN_cI_c \approx$ coil loop area x NI. (Equation 5)

Please amend and substitute the following paragraph for the paragraph beginning on page 19, line 33, as follows:

Figure 7 includes three graphs that illustrate the influence of the auxiliary conductor array 42 for the three components of the magnetic field (B). Figure 7 illustrates that the By component of the magnetic field of the motor drive conductor array 40 is the dominant one, and that the auxiliary conductor array 42 considerably cancels the magnetic field of the motor 10. For the test, a magnetic sensor (not shown) was located at X = ~~0~~ 0, Y = ~~0~~ 0, and Z = 300 mm, and the current through the auxiliary conductor array 42 was adjusted by varying the shunt resistor of the control system 15, until the By component of the magnetic field of the motor drive conductor array 40 is minimized. Figure 7 also illustrates the amount of magnetic shielding provided by the magnet component housing 34.